

REMARKS

Claims 1 and 3-39 are pending in this application. Claims 17-39 were withdrawn from consideration in a Response to Restriction Requirement filed on May 13, 2004. Claims 1, 2 and 6 were rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,403,089 ("Kuo"). Claims 3-5, 7-10 and 16 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Kuo in view of U.S. Patent No. 6,782,900 ("De Young"). Claim 15 was rejected under 35 U.S.C. § 103(a) as allegedly obvious over Kuo in view of De Young and U.S. Patent No. 6,149,828 ("Vaartstra"). These rejections are respectfully traversed, for reasons including those set forth below.

However, claim 1 has been amended to distinguish more clearly the prior art relied upon. Claim 2 has been canceled, without prejudice. Claim 6 has been amended to depend from claim 1 instead of from cancelled claim 2.

Responses to Claim Rejections

There are many distinctions between the claimed invention and the art relied upon. For example, independent claim 1 (the only pending independent claim) originally recited "a delivery mechanism adapted to deliver, under supercritical or near supercritical conditions, a portion of the solution to a reactor for housing said work piece" After the current amendment, the corresponding portion of claim 1 recites "a delivery mechanism adapted to deliver, under supercritical or near supercritical conditions, a portion of the saturated solution to a reactor for housing said work piece"

It is respectfully submitted that Kuo does not teach a delivery mechanism as originally claimed or as currently claimed. As understood, Kuo teaches methods and devices for liquid spraying applications:

Clearly, what is needed is an environmentally safe, non-polluting diluent that can be used to thin very highly viscous polymer and coatings compositions to liquid spray application consistency. Such a diluent would allow utilization of the best aspects of organic solvent borne coatings applications and performance while reducing the environmental concerns

to an acceptable level. Such a coating system could meet the requirements of shop- and field-applied liquid spray coatings as well as factory-applied finishes and still be in compliance with environmental regulations.

(Kuo at col. 2, lines 35-45; see also Figs. 3-5 and the accompanying descriptions.)

As understood, Kuo does not teach applying the solution "under supercritical or near supercritical conditions" as recited in claim 1, but instead teaches the release of the solution via a spray gun to apply coatings. Clearly, a spray gun that releases pressurized, dissolved coatings onto a workpiece does not deliver a solution "under supercritical or near supercritical conditions" as recited in claim 1. By its very nature, a spray gun disperses its contents via a drop in pressure, whether a great or a small drop in pressure.

Similarly, Kuo does not teach delivering a solution to a reactor. Kuo, as understood, does not address the issues associated with processing a workpiece in a carefully controlled reactor environment such as those used in the semiconductor fabrication industry.

Claim 1, as amended, now also recites the following:

a plurality of vessels for housing the solid precursor and allowing it to contact a solvent under supercritical or near supercritical conditions to generate a saturated solution of the solid precursor, wherein supercritical conditions exist when the temperature and pressure of a solution are at or above the solution's critical temperature and pressure, and wherein near supercritical conditions exist when the reduced temperature and pressure of a solution are both greater than 80% of their critical point but the solution is not yet in the supercritical phase;

a generator recirculation loop in fluid communication with the plurality of vessels and allowing the saturated solution of the solid precursor to recirculate through the plurality of vessels, said saturated solution being under supercritical or near supercritical conditions over its entire recirculation path;

As understood, neither Kuo nor De Young teaches generating a saturated solution, recirculating a saturated solution and/or delivering a saturated solution to a reactor. The term "saturated solution" has a well-known meaning in the chemical arts and related fields. For example, the same dictionary referenced in page 3 of the Office Action defines a "saturated" solution as "being a solution that is unable to absorb or dissolve any more of a solute at a given temperature and pressure." (Merriam Webster's Collegiate Dictionary, 10th ed., at p. 1038, col. 2) Similarly, Segal's Chemistry treatise defines "saturated solution" as follows:

A solution in equilibrium with excess dissolved solute. The equilibrium is dynamic, and the two opposing reactions are (1) dissolution of solute into the solution, and (2) precipitation of solute out of solution. The concentration of solute in a saturated solution is a constant at constant temperature.

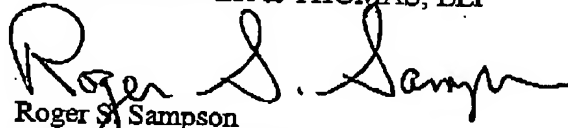
(Id., Glossary at p. 965, col. 2 (John Wiley and Sons 1985).)

For the foregoing reasons, claim 1 is allowable over the art relied upon. Claims 3-16 are allowable as dependent from claim 1. Although there are independent grounds for the allowability of claim 1 and dependent claims 3-16, they are moot considering the foregoing statements and therefore are not discussed in this paper. Applicants' attorney reserves the right to assert further grounds for the allowability of claims 1 and 3-16, including but not limited to evidence regarding prior inventorship.

Conclusion

Claims 1 and 3-16 define novel and non-obvious subject matter of the present invention. Therefore, a notification that the application is in condition for allowance is earnestly solicited. Please telephone Applicants' attorney if the Examiner believes that there are any issues requiring further discussion or clarification. If any fees are due in connection with the filing this paper, the Commissioner is hereby authorized to charge such fees to Deposit Account 500388 (Order No. NOVLP030).

Respectfully submitted,
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